



Sheet #5 (Classes)

1. What is the output of the following programs?

a. Program1

```
1 #include<iostream>
2 using namespace std;
3 class Date
4 {
5     private:
6         int day,month,year;
7
8     public:
9         Date( )
10        {    day=0;
11            month=0;
12            year=0000;    }
13
14        Date(int d, int m, int y)
15        {    day=d;
16            month=m;
17            year=y;    }
18
19        ~Date( )
20        {    cout<<"\nDestructuring The class Date!!!!!!";    }
21        void display( )
22        {    cout<<"The day is: "<<day<<"\tThe month is: "<<month
23            <<"\t The year is: "<<year;    }
24 };
25
26 int main( )
27 {
28     Date d1;
29     d1.display( );
30     cout<<"\nThe Constructor uses the default Parameters.\n\n";
31     Date d2(01,01,2000);
32     d2.display( );
33     cout<<"\nThe Constructor does not use the default Parameters.";
34     return 0;
35 }
```



b. Program2

```
1 #include<iostream>
2 using namespace std;
3 class M
4 {
5     public:
6         M(int) ;
7         double mystery(int);
8
9     private:
10        int data;
11        double number;
12 };
13
14 M::M(int q)
15 {
16     data=q;
17     number=0.5;
18 }
19
20 double M::mystery(int q)
21 {
22     data +=q;
23     return data * number;
24 }
25
26 int main( )
27 {
28     M stuff(44);
29     cout<<stuff.mystery(78);
30     return 0;
31 }
```

2. For the two programs shown in problem 1; rewrite the programs using the concept of *Encapsulation*. Separate between the class (definition and declaration) and the main program. (Note: Put the class in a header file)?